



**AIR QUALITY FULL COMPLIANCE  
EVALUATION REPORT**  
AS 46.14.515



<b>Stationary Source Evaluated:</b>	Kupark Central Production Facility #1
<b>Owner/Operator:</b>	ConocoPhillips Alaska, Inc.
<b>Air Quality Permit:</b>	AQ0267TVP01 Rev. 2 AQ0267MSS09 – <i>Rescinded 10/1/18</i> AQ0267MSS08 – <i>Rescinded 10/1/18</i> AQ0267MSS07 AQ0267MSS06 AQ0267MSS05
<b>Location:</b>	70.326592° N, -149.597247° W
<b>Period Covered by Evaluation:</b>	April 1, 2017 through February 28, 2019
<b>Date of On-Site Visit:</b>	May 15, 2018
<b>Date of Report:</b>	March 1, 2019
<b>Evaluator(s):</b>	Breanna McGuire, Environmental Program Specialist
<b>Facility Representative(s):</b>	Dennis Milton-CPF-1 Operations Superintendent Randy Roberts Jay McKee-CPF1 Maintenance Supervisor Sarah Byam, Field Environmental Coordinator
<b>Weather Condition at Time of On-Site Visit:</b>	Overcast, 39° F, Wind: 9 mph (NE)

## Table of Contents

	Page
I. Evaluation Summary .....	1
II. Stationary Source Description .....	1
III. Significant Emission Units .....	1
IV. Compliance Background.....	7
V. Federal Standards (NSPS/NESHAP) .....	7
A. NSPS Subpart A .....	7
B. NSPS Subpart Dc .....	9
C. NSPS Subpart Ka .....	9
D. NSPS Subpart GG .....	9
E. NSPS Subpart J .....	10
F. NSPS Subpart GGG/VV .....	11
G. NSPS Subpart OOOOa .....	12
H. NESHAP Subpart A .....	12
I. NESHAP Subpart E.....	13
J. NESHAP Subpart M.....	13
K. NESHAP Subpart FF .....	14
L. NESHAP Subpart ZZZZ.....	14
VI. State Standards .....	16
A. Visible Emissions .....	16
B. Particulate Matter .....	16
C. Sulfur Compound Emissions.....	16
VII. Emission Unit-Specific Requirements.....	17
VIII. Owner Requested Limits .....	20
A. Operating hours for Emergency Liquid Fuel-Fired Engines .....	20
B. ORL for Emission Unit ID 16 to Avoid Exceeding 43 MMBtu/hr Firing Rate .....	20
C. Limits to Avoid Classification as PSD Minor.....	20
D. ORL for Incinerators for Exemption from the Requirements of 40 CFR 60 Subpart O .....	22
IX. Public Complaints .....	22
X. Records Research .....	22
XI. Reports Reviewed.....	24
E. Operating Reports.....	24
F. Annual Compliance Certifications .....	25
G. Excess Emissions.....	25

H.	Permit Deviations .....	25
I.	Source Tests .....	26
J.	Federal Reports.....	27
K.	Other Reports .....	27
XII.	On-Site Visit .....	28
XIII.	Compliance Issues .....	30
XIV.	Conclusion.....	31

## I. Evaluation Summary

The Alaska Department of Environmental Conservation (ADEC) conducted an air quality full compliance evaluation (FCE) of the Permittee stationary source covering the period April 1, 2017 through February 28, 2019. The purpose of the evaluation was to determine if the stationary source was in compliance with terms and conditions of Air Quality Operating Permit Nos. AQ0267TVP01 Rev. 2, AQ0267MSS09, AQ0267MSS08, AQ0267MSS07, AQ0267MSS06, AQ0267MSS05 and Alaska Air Quality Control Regulations. This FCE includes a comprehensive review of records and files and was conducted with an on-site visit.

Based on the scope of this evaluation, the stationary source was determined to be intermittently **out of compliance** with Conditions 3(b), 87, and 90.

## II. Stationary Source Description

Kuparuk Central Production Facility #1 (CPF-1) is operated by ConocoPhillips Alaska, Inc. (CPAI). CPF-1 processes crude oil fluids produced from the Kuparuk River unit located on the North Slope of Alaska. CPF-1 can process 150,000 barrels of crude oil per day and 250 million standard cubic feet of gas.

Three-phase crude is transferred from the surrounding drill sites to CPF-1 where it is separated into crude oil for sale, produced water for reinjection, and natural gas for further processing as fuel and for reinjection. Energy needed to support operations comes primarily from combustion of produced hydrocarbon gas. CPF-1 also contains a crude oil topping unit, KUTP, for production of Arctic grade diesel. Diesel is used in vehicles, support equipment, and in various well work activities. CPF-1 is also the location of two crude oil divert tanks which are used during upset or emergency situations which may affect transportation of oil.

The Kuparuk Operations Center (KOC), which is the main office and camp service for the Kuparuk River Unit, is located adjacent to CPF-1 on the same gravel pad. A potable water and wastewater treatment plant services KOC. Two incinerators are located at the wastewater treatment plant and are used to incinerate trash generated at KOC and sewage sludge generated at the treatment plant. The standard industrial classification (SIC) code for this stationary source is 1311 - Crude Petroleum and Natural Gas Production.

## III. Significant Emission Units

The table below identifies the significant emission units at the stationary source as authorized under the permit.

EU ID	Tag No.	Emission Unit Description	Rating/size	Construction/ Startup/ Modification
<b>Group 1 - Gas Turbines</b>				
1	C-2101-A	GE Frame 3 (MS3002K-HE) Gas Lift Compressor	16,260 hp ISO	5/2004

EU ID	Tag No.	Emission Unit Description	Rating/size	Construction/Startup/Modification
2	C-2101-B	GE Frame 3 (MS3002K-HE) Gas Lift Compressor	16,260 hp ISO	10/2003
3	C-2101-C	GE Frame 3 (MS3002K-HE) Gas Lift Compressor	16,260 hp ISO	11/2004
4	G-201-A	EGT (Ruston) TB5000 Electric Generator (Dual fired)	4,900 hp ISO	1979
5	G-201-B	EGT (Ruston) TB5000 Electric Generator (Dual fired)	4,900 hp ISO	1979
6	G-201-C	EGT (Ruston) TB5000 Electric Generator (Dual fired)	4,900 hp ISO	1979
7	G-201-D	EGT (Ruston) TB5000 Electric Generator (Dual fired)	4,900 hp ISO	1979
8	G-3201-E	EGT (Ruston) TB5000 Electric Generator (Dual fired)	4,900 hp ISO	10/1981
9	G-3201-F	EGT (Ruston) TB5000 Electric Generator (Dual fired)	4,900 hp ISO	10/1981
10	P-2202-A	EGT (Ruston) TB5400 Water Injection Pump	5,400 hp ISO	5/1993
11	P-2202-B	EGT (Ruston) TB5400 Water Injection Pump	5,400 hp ISO	5/1993
12	P-CL07-A	EGT (Ruston) TB5400 Water Injection Pump (Dual fired)	5,400 hp ISO	5/1993
13	P-CL07-B	EGT (Ruston) TB5400 Water Injection Pump (Dual fired)	5,400 hp ISO	5/1993
14	G-3203	GE Frame 6 (PG6561 B) Gas Turbine Electric Generator	53,500 hp (39,930 kW) ISO	1999
<b>Group II – Gas-Fired Heaters (Excluding Drill Site Heaters)</b>				
15	H-201	Broach Emergency Heater (Dual fired)	27.8 MMBtu/hr [heat input, LHV]	1979
16	G1-14-01	Born Crude Heater (KUTP)	44.4 MMBtu/hr [heat input, LHV]	12/1984
17	H-3204	Kvaerner Process Systems Fuel Gas Heater	9.7 MMBtu/hr [heat input, LHV]	1999
18 <sup>8</sup>	H-102A	ICE Air Heater	4.375 MMBtu/hr [heat input, LHV]	6/2001
<b>Group III – Liquid Fuel-Fired Equipment</b>				

EU ID	Tag No.	Emission Unit Description	Rating/size	Construction/Startup/Modification
19 <sup>a</sup>	G-701-A	Waukesha Emergency Generator	1,086 hp	1980
20 <sup>a</sup>	G-701-B	Waukesha Emergency Generator	1,086 hp	1980
22	P-1A02	GM Detroit Allison Freeze Protection Pump (1A) Model 7083-7000	231 hp	1982 <sup>(3)</sup>
23	P-1F02	GM Detroit Allison Freeze Protection Pump (1F) Model 7083-7000	231 hp	1981 <sup>(3)</sup>
24	P-1G02	GM Detroit Allison Freeze Protection Pump (1G) Model 7083-7000	231 hp	1981 <sup>(3)</sup>
25	P-1L02	GM Detroit Allison Freeze Protection Pump (1L) Model 8083-7000	300 hp	1981 <sup>(3)</sup>
26	P-1Q02	GM Detroit Allison Freeze Protection Pump (1Q) Model 8083-7000	300 hp	1981 <sup>(3)</sup>
27	P-1R02	GM Detroit Allison Freeze Protection Pump (1R) Model 8083-7000	300 hp	1981 <sup>(3)</sup>
28	P-1Y02	GM Detroit Allison Freeze Protection Pump (1Y) Model 8083-7000	300 hp	1981 <sup>(3)</sup>
<b>Group IV - Flares</b>				
29	H-101B	McGill Emergency Flare	1.6 MMscf/day (Pilot/Purge/Assist) Combined Total for all flares	10/1981
30	H-KF01	Kaldair I-58-VS Emergency Flare/Control Device (LP)		1991
31	H-KF02	Kaldair I-87-FS Emergency Flare (HP)		1991
32	H-CR01A	McGill Emergency Flare		Unknown
33	H-CR01B	McGill Emergency Flare		1/1985
34 <sup>12</sup>	PF1	Portable Flare	150 Mscf/day 16.2 MMscf/yr	
<b>Group V – Incinerators</b>				
35	H-250	Comptro Incinerator w/ supplemental gas-fired burners: Primary Burner #1 Primary Burner #2 Secondary Burner	1,300 lb/hr 0.8 MMBtu/hr 0.8 MMBtu/hr 2.0 MMBtu/hr	1980

EU ID	Tag No.	Emission Unit Description	Rating/size	Construction/Startup/Modification
36 <sup>40</sup>	H-347	Comptro Incinerator with supplemental gas-fired burners: Primary Burner Secondary Burner	900 lb/hr 1.95 MMBtu/hr 1.33 MMBtu/hr	1980
<b>Group VI – Other Equipment (Drill Site Heaters and Drill Site Production Heaters)</b>				
37	H-1A01	Latoka Drill Site Heater (1A)	16.4 MMBtu/hr[heat input, LHV]	12/1981
38	H-1B01	Latoka Drill Site Heater (1B)	16.4 MMBtu/hr[heat input, LHV]	12/1981
39	H-2V01	CE NATCO Drill Site Heater (1C)	14.5 MMBtu/hr[heat input, LHV]	1984
40	H-3F01	CE NATCO Drill Site Heater (1D)	19.6 MMBtu/hr[heat input, LHV]	1985
41 <sup>44</sup>	H-1E01	Latoka Drill Site Heater (1E)	16.4 MMBtu/hr[heat input, LHV]	12/1981
42	H-1E02	GTS Energy Production Heater (1E)	30.0 MMBtu/hr[heat input, LHV]	8/15/05
43	H-1F01	BS & B Drill Site Heater (1F)	14.9 MMBtu/hr[heat input, LHV]	10/1982
44	H-1G01	BS & B Drill Site Heater (1G)	14.9 MMBtu/hr[heat input, LHV]	10/1982
45	H-1F-1901	Latoka Drill Site Heater (1H)	16.4 MMBtu/hr[heat input, LHV]	6/1982
46	H-1J01A	Petrochem Development Production Heater (1J)	36.8 MMBtu/hr[heat input, LHV]	12/1/04
47	H-1J01B	Petrochem Development Production Heater (1J)	36.8 MMBtu/hr[heat input, LHV]	12/1/04
48	H-1Q01	BS&B Drill Site Heater (1Q)	21.0 MMBtu/hr[heat input, LHV]	1985

EU ID	Tag No.	Emission Unit Description	Rating/size	Construction/Startup/Modification
49	H-1R01	BS&B Drill Site Heater (1R)	17.2 MMBtu/hr[heat input, LHV]	1985
50 <sup>14</sup>	H-1Y01	BS&B Drill Site Heater (1Y)	14.9 MMBtu/hr[heat input, LHV]	3/1983
<b>Group VII – NSPS Storage Tanks</b>				
51	T-201	Arctic No. 1 Diesel	2,000 bbls	1979
52	G1-19501	ULSD Fuel	3,000 bbls	1983
53	G1-19502	ULSD Fuel	3,000 bbls	1983
54	G1-19503	ULSD Fuel	3,000 bbls	1983
55	G1-19504	ULSD Fuel	9,900 bbls	1983
<b>Group VIII – Portable Storage Tanks</b>				
56 <sup>12</sup>		Temporary Crude Oil Storage Tank(s)	<10,000 gallons each	
<b>Topping Plant</b>				
57		Kuparuk Unit Topping Plant (KUTP)		8/1983
<b>Group IX – Drilling Rig (Portable Emission Units) at Drill Sites 1E and 1J</b>				
58 <sup>12</sup>		Drill Rig Engines	Various	
59 <sup>12</sup>		Drill Rig Heaters and Boilers	Various	
60 <sup>12</sup>		Rig Camp Engines	Various	
<b>Group X – Generic Well Servicing Equipment and Well Frac Units (Portable Emission Units) at Drill Sites 1E and 1J</b>				
61 <sup>12</sup>		Well Servicing Heaters		
62 <sup>12</sup>		Well Servicing Engines		
63 <sup>12</sup>		Well Frac Unit Engines		
<b>Group XI – DS1R Well Injection Pump IC Engines</b>				
64 <sup>7</sup>	KS5010 A	Detroit Diesel 8083-7300 Well Injection Pump Engine	440 hp	10/2000
65 <sup>7</sup>	KS5010 B	Detroit Diesel 8083-7300 Well Injection Pump Engine	440 hp	10/2000
66 <sup>7</sup>	KS5010-1	Kubota Model V4702-VG1 Standby Generator	70 hp (50 kW)	1999
<b>Gasoline Dispensing Facility</b>				

EU ID	Tag No.	Emission Unit Description	Rating/size	Construction/Startup/Modification
67 <sup>13</sup>	TK-FA-0501-10	Mobile Gasoline Storage/Dispensing Tank	300 gallons	June 2009
<b>AQ0267MSS05 Grinding</b>				
68a		Small Mill (A6061585) <sup>6</sup>	25 tph <sup>5</sup>	Startup: August 2013
68b		Large Mill (A6061585) <sup>6</sup>	50 tph <sup>5</sup>	Startup: August 2013
<b>AQ0267MSS05 Screening</b>				
68c		Shaker #1 <sup>6</sup>	160 tph <sup>5</sup>	Startup: August 2013
68d		Shaker #2 <sup>6</sup>	160 tph <sup>5</sup>	Startup: August 2013
<b>AQ0267MSS07 Emergency Generators</b>				
69	G-702-A	MTU 16V4000G83L	2745 kW	Commenced Construction 11/5/2013 Startup: 5/4/2016
70	G-702-B	MTU 16V4000G83L	2745 kW	Commenced Construction 11/5/2013 Startup: 5/4/2016

Notes:

1. Date construction commenced (if known) or the startup date of the unit. If a unit has been modified as defined by AS 46.14.990, then the most recent modification date is provided. Relocation of drill site heaters does not constitute a modification. See the Statement of Basis for information regarding the GE Frame 3 turbine modification history.
2. Units identified as "dual fired" are plumbed to run on liquid fuel in an emergency.
3. The year of manufacture for this unit is from manufacturer's records provided by ADEC to the Permittee.
4. EU ID 21, a 215 hp GM Detroit Allison Water Booster pump driver listed on the AQ0267TVP01 emission inventory has been physically disabled and abandoned in place.
5. Emission Units 68a through 68d are operated using high line power
6. tph – Ton per hour
7. EU IDs 64, 65, and 66 were permanently removed from stationary service on August 9, 2015.
8. EU ID 18 was removed from service in 2015 and physically removed from the source in October 2017.
9. EU IDs 19 and 20 have been removed from service and their fuel supply blinded since September 2016. They were replaced by EU IDs 69 and 70, which started up May 4, 2016.
10. EU ID 36 was physically removed from the source as of October 10, 2018.
11. EU ID 41 has been out of service since September 1, 2010.
12. EU IDs 34, 56, 58 – 63 were permitted under Minor Permit No. AQ0267MSS02, which was rescinded by Minor Permit No. AQ0267MSS06. The MSS06 permit will be incorporated into Operating Permit No. AQ0267TVP01 upon submittal of an administrative permit amendment application (December 2018 or January 2019).
13. EU ID 67 is an IEU and will not be included in the Operating Permit emission unit inventory. It is not subject to any requirements.
14. EU ID 50 has been out of service since April 2013.

On January 5, 2019, CPAI provided an updated Emission Inventory for the stationary source.

#### IV. Compliance Background

The stationary source was found to be **out of compliance** during the 2017 FCE with Conditions 3(b) and 90 of Permit No. AQ0267TVP01 Rev. 2 due to excess opacity from EU IDs 30, 31, 33, and 35. A compliance letter was sent on June 30, 2017 with no actions required. The excess opacity event occurred on June 22, 2016 on EU ID 33 McGill Emergency flare was addressed through Case No. 15-R068-37-0001, (Air Tools case 3200) and closed on December 13, 2016.

#### V. Federal Standards (NSPS/NESHAP)

##### A. NSPS Subpart A

1. **Startup, Shutdown, & Malfunction Requirements (Condition 23).** The Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of EU IDs 1 through 14, 16, 30, 31, 42, 46, 47, 51 through 55, and 57; any malfunctions of associated air-pollution control equipment; or any periods during which a continuous monitoring system or monitoring device for EU IDs 1 through 14, 16, and 30 is inoperative.
2. **Excess Emissions and Monitoring Systems Performance Report (Condition 24).** Except as provided for in condition 25 of Permit No. AQ0267TVP01, Rev. 2, the Permittee shall submit to the Department and to the US Environmental Protection Agency (EPA) a written "excess emissions and monitoring systems performance report" (EEMSP) as described in this condition for EU IDs 1 through 14, 16, and 30. Except as provided for in condition 32.9, the Permittee shall submit the EEMSP reports to EPA semi-annually, postmarked by the 30th day following the end of each six-month period.
3. **Summary Report Form (Condition 25).** Except as provided for in Condition 32.9 of Permit No. AQ0267TVP01, Rev. 2, the Permittee shall submit to the Department and to EPA a "summary report form" semiannually, postmarked by the 30th day following the end of each six-month period, in the format shown in Figure 1 of 40 C.F.R. 60.7 for each pollutant monitored for EU IDs 1 through 14, 16, and 30.
4. **NSPS Subpart GG Excess Emission Reports (Condition 26).** For the purpose of reports required by conditions 24 and 25, periods of excess emissions and monitor downtime for EU IDs 1 through 13 are defined in 40 CFR 60.334(j)(2). For EU IDs 12 and 13, include each period during which the emergency fuel exemption provided in 60.332(k) is in effect. For each period, report the type, reasons, and duration of the firing of the emergency fuel.
5. **Credible Evidence (Condition 27).** For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of the standards set forth in conditions 28, 29, and 31 through 36, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether EU IDs 1 through 14, 16, 30, 31, 42, 46, 47, and 57 would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

- 6. General Control Device Requirements (Condition 28).** The Permittee shall monitor EU IDs 30 and 31, flares used as control devices for EU ID 57, to ensure that they are operated and maintained in conformance with 40 C.F.R. 60.18(c)(1), (c)(2), (c)(3), (c)(5), (c)(6), 60.18(d), 60.18(e), 60.18(f)(1), (f)(2), (f)(3), (f)(4), (f)(6), and 40 C.F.R. 60.485(g).

**Findings:** The Department evaluates compliance with NESHAP and NSPS Subpart A requirements primarily by reviewing the self-reported listing of the applicable conditions in each Annual Compliance Certification (ACC), and by reviewing semi-annual reports submitted under these subparts. For 2017, CPAI certified continuous compliance with all NSPS Subpart A requirements in its 2017 ACC. The 2018 ACC will not be due until after the date of this report.

Regarding periodic NSPS reporting, EU IDs 1-14 are subject to NSPS GG, whereas 16 and 30 are subject to NSPS J. These emission units are subject to the semi-annual reporting requirements listed under 40 C.F.R. §60.7(c). EU IDs 1-14 have a Custom Fuel Monitoring Schedule approved by the US EPA on April 5, 2000. As part of this Custom Monitoring Schedule, CPF#1 may submit compliance summary reports annually instead of semi-annually, and include the results of monthly sulfur monitoring.

The NSPS reporting requirements for EU IDs 1-14 is further documented under Condition 32.9 of Permit No. AQ0267TVP01, Rev. 2 which states "... Annual reporting under the Custom Fuel Monitoring Schedule may include the information required under 40 CFR 60.7(c) in order to satisfy 40 CFR 60.7(c) and (d) reporting required under 40 CFR 60.334(j)." Please refer to NSPS Subpart GG Sulfur Standard, below, for more information.

CPAI submits annual NSPS Subpart GG EEMSP reports in conjunction with the data required by its April 5, 2000 Custom Fuel Monitoring Schedule (CFMS) in accordance with Condition 32.9 of AQ0267TVP01 Rev. 2.

Reporting Period	Date Submitted	Compliance Status
January 1 – December 31, 2017	January 15, 2018	In Compliance
January 1 – December 31, 2018	January 25, 2019	In Compliance

The annual NSPS Subpart GG reports indicate the hours for which the units fired fuel gas and arctic diesel fuel. EU IDs 12 and 13 did not operate on arctic diesel fuel during 2017. Therefore, the emergency fuel exemption was not in effect during the evaluation period.

For EU IDs 16 and 30 periodic NSPS Subpart A reporting requirements is on a semi-annual basis, due to the EPA postmarked by the 30<sup>th</sup> day following the end of each six-month period in accordance with Conditions 24, 25 and 26 of Permit No. AQ0267TVP01 Rev. 2. Condition 87 of Permit No. AQ0267TVP01 Rev. 2 requires the Permittee to submit any NSPS or NESHAP reports submitted to the EPA in the

corresponding FOR. During this evaluation period CPAI submitted the following reports:

Reporting Period	Date Submitted	Compliance Status
January 1 – June 30, 2018	January 22, 2019	<b>In Compliance</b>
July 1 – December 31, 2018	January 16, 2019	<b>In Compliance</b>

The 1H18 NSPS Subpart A report was submitted timely to the US EPA but CPAI did not include in the 1H18 FOR as required by Condition 87 of Permit No. AQ0267TVP01 Rev. 2.

#### **Out of Compliance with Condition 87**

#### **B. NSPS Subpart Dc**

##### **1. Fuel Consumption.**

Per Condition 29 of Permit AQ0267TVP01 Rev 2, the Permittee shall record and maintain records of the amount of fuel combusted during each day for EU IDs 42, 46, and 47 or monitor according to an EPA approved custom fuel monitoring schedule.

**Finding:** In its 2017 ACC, CPAI certified continuous compliance with this requirement. CPAI reports the monthly fuel consumption for EU IDs 42, 46 and 47 in each FOR.

#### **In Compliance**

#### **C. NSPS Subpart Ka**

1. Per Condition 30 of Permit AQ0267TVP01 Rev 2, the Permittee shall not store in EU IDs 51 through 55, a petroleum liquid with a true vapor pressure greater than 1.0 psia.

**Finding:** In its 2017 ACC, CPAI reported continuous compliance with this requirement. EU ID 51 stores Arctic No. 1 Diesel while EU IDs 52-55 store ULSD.

#### **In Compliance**

#### **D. NSPS Subpart GG**

##### **1. NO<sub>x</sub> Standard**

The Permittee shall not allow the corrected gas concentration of NO<sub>x</sub> from:

- EU IDs 1 through 3 to exceed 161 ppmvd at 15 percent O<sub>2</sub> dry exhaust basis
- EU IDs 10 through 13 to exceed 162 ppmvd at 15 percent O<sub>2</sub> dry exhaust basis

**Initial Periodic Testing.** For each turbine subject to conditions 6 and/or 31 that operates for 400 hours or more in any 12-month period during the life of this permit, the Permittee shall satisfy either condition 31.2a(i) or 31.2a(ii) of Permit No. AQ0267TVP01, Rev. 2.

**Finding:** Conditions 6 and/or 31 were not triggered during the evaluation period. NSPS Subpart GG NOx source testing occurred in September 2004 and April 2014.

### **In Compliance**

#### **2. Sulfur Standard**

The Permittee shall not allow the sulfur content of the fuel burned in EU IDs 1 through 14 to exceed 0.8 percent by weight. For gaseous fuels, the Permittee may demonstrate that the fuels meet the definition of natural gas in Section 60.331(u), as provided by 40 CFR 60.334(h)(3). For liquid fuels: except as allowed by an EPA-approved custom fuel monitoring schedule, monitor the total sulfur content of the fuel as required under 40 CFR 60.334(h)(1), §60.334(i)(1), and §60.335(b)(10)(i). The Permittee shall annually report to EPA the results of all sulfur monitoring required by condition 32.1. Annual reporting under the Custom Fuel Monitoring Schedule may include the information required under 40 CFR 60.7(c) in order to satisfy the 40 CFR 60.7(c) and (d) reporting required under 40 CFR 60.334(j).

**Finding:** CPAI submits annual NSPS Subpart GG monitoring reports. The 2017 and 2018 annual reports were submitted on time. The sulfur monitoring portion of the reports includes the monthly sulfur content (wt %) of the CPF-1 Low End Point Diesel, and the monthly H<sub>2</sub>S content (ppm) of the Fuel Gas – Frame 6 and Lift Gas. All reported values were below the 0.8% threshold. CPAI reported that no excess emissions occurred with regard to the 0.8% standard. The highest sulfur content reported in 2017 and 2018 was 0.120 % wt.

CPAI reported continuous compliance with all triggered NSPS Subpart GG requirements in its 2017 ACCs.

### **In Compliance**

#### **E. NSPS Subpart J**

##### **1. SO<sub>2</sub> Emission Standards**

The Permittee shall not cause or allow fuel gas burned in EU IDs 16 (Born crude heater at the KUTP) and 30 (Kaldair I-58-VS Emergency Flare) to contain hydrogen sulfide (H<sub>2</sub>S) in excess of 162 ppmv (equivalent to 230 mg/dscm at 59 °F), averaged over three consecutive hours. Maintain and operate in good working order two CEMS at the KUTP for recording and monitoring hydrogen sulfide content of the fuel burned in EU IDs 16 and 30, which contain a component of the process gas generated by KUTP. The Permittee shall monitor the combination of process gas and fuel gas burned in EU IDs 16 and 30 to determine the hydrogen sulfide content of the gas.

**Finding:** CPAI submits semi-annual CEM reports. During the evaluation period, no H<sub>2</sub>S excess emissions were reported in the semi-annual CEM reports. The 1H18 semi-annual report was not submitted to the Department at the time it was submitted to the EPA. On January 22, 2019 in response to the Department's inquiry, CPAI submitted the 1H18 report. CPAI also submitted the H<sub>2</sub>S Analyzer logs for each inoperative

period. In addition, on January 5, 2019 in response to the Departments FCE information request, CPAI submitted analyzer logs which showed the highest average H<sub>2</sub>S gas reported during the evaluation period was 162.0 ppm. The analyzer logs were also consistent with the reports previously submitted in the semi-annual CEM reports.

Date Submitted	Reporting Period	Date Submitted	AIT-9001 H <sub>2</sub> S Analyzer Downtime (%)	AIT-1521 H <sub>2</sub> S Analyzer Downtime (%)
July 7, 2017	1H17	July 7, 2017	4.7%	4.5%
January 15, 2018	2H17	January 15, 2018	4.6%	4.9%
January 22, 2019	1H18	January 22, 2019	5.6%	5.9%
January 16, 2019	2H18	January 16, 2019	5.0%	5.2%

### In Compliance

#### **F. NSPS Subpart GGG/VV**

Per Condition 34 of Permit No. AQ0267TVP02 Rev. 2, the closed vent systems installed at KUTP (EU ID 57) and control devices (EU IDs 30 and 31) used to comply with 40 CFR 60.482-10 shall be operated at all times when emissions may be vented to them. Flares (EU IDs 30 and 31) used to comply with this condition shall comply with 40 CFR 60.18, as stated in condition 28.

Sub-conditions of Condition 34 require monitoring and repairs on closed vent systems and control devices, and pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors

Per Condition 35 of Permit No. AQ0267TVP02 Rev. 2, sampling connection systems for the KUTP (EU ID 57) shall be designed and operated to meet the standards and requirements of 40 CFR 60.482-5.

Per Condition 36 of Permit No. AQ0267TVP02 Rev. 2, open-ended valves or lines for the KUTP (EU ID 57) shall be equipped with a cap, blind flange, plug or a second valve and shall be operated in accordance with provisions of 40 CFR 60.482-6.

**Finding:** CPAI submits semi-annual NSPS Subpart GGG reports which include information regarding process unit shutdowns and delay of repairs. CPAI did not include the 1H18 report with the 1H18 FOR as required by Condition 87. On January 25, 2019 in response to Department inquiry, CPAI submitted the 1H18 report. During the evaluation period, no significant delays of repairs were reported.

Reporting Period	Date Submitted	Compliance Status
January 1 – June 30, 2017	July 7, 2017	In Compliance
July 1 – December 31, 2017	January 15, 2018	In Compliance
January 1 – June 30, 2018	January 25, 2019	In Compliance

July 1 – December 31, 2018	January 16, 2019	In Compliance
----------------------------	------------------	---------------

CPAI reported continuous compliance with all triggered NSPS Subpart GGG/VV requirements in its 2017 ACC. However, the January 1 – June 30, 2018 NSPS report was submitted to the US EPA timely but were not included in the corresponding FOR for that period as required by Condition 87 of the operating permit.

#### **Out of Compliance with Condition 87**

##### **G. NSPS Subpart OOOOa**

Activities covered under this rule that became effective August 2, 2016 include but are not limited to hydraulic fracturing within oil and gas production fields. Commonly known as “fracking”, this process is a well stimulation technique in which rock is fractured by a pressurized liquid (water mixture).

This subpart establishes emission standards and compliance schedules for the control of the pollutant greenhouse gases (GHG). The greenhouse gas standard in this subpart is in the form of a limitation on emissions of methane from affected facilities in the crude oil and natural gas source category that commence construction, modification, or reconstruction after September 18, 2015. This subpart also establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO<sub>2</sub>) emissions from affected facilities in the crude oil and natural gas source category that commence construction, modification or reconstruction after September 18, 2015. The effective date of the rule is August 2, 2016.

Per 40 CFR 60.5420a (b) the initial report is due, no later than 90 days after the end of the initial compliance period as determined to 60.5410a. The initial compliance period began on August 2, 2016 and ends August 1, 2017; therefore the first annual report would be due by October 30, 2017.

Per 40 CFR 60.5420a(b); CPAI may arrange with the administrator a common schedule on which reports may be submitted so long as the schedule does not extend the reporting period.

**Finding:** CPAI elected to submit the annual OOOOa on June 29, 2017 (and by June 29th of all subsequent years). June 29, 2017 covers a reporting period of less than one year (reporting sooner than October 30, 2017), and therefore satisfies the requirement for an alternate reporting deadline. On June 27, 2017; CPAI submitted an annual report for the period of September 18, 2015 through March 31, 2017. On July 20, 2018 CPAI submitted the April 1, 2017 through March 31, 2018 NSPS Subpart OOOOa with the FOR.

#### **In Compliance**

##### **H. NESHAP Subpart A**

1. **Good Air Pollution Control Practice.** Per Condition 21 of Permit AQ0267TVP01 Rev 2, at all times, including periods of startup, shutdown, and malfunction, the

Permittee shall, to the extent practicable, maintain and operate EU IDs 1 through 14, 16, 30, 31, 35, 36, 42, 46, 47, 51 through 55, and 57 including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspections of the affected emission units.

2. **Concealment of Emissions.** Per Condition 22 of Permit AQ0267TVP01 Rev 2, the Permittee shall not build, erect, install, or use any article, machine, equipment process or method, the use of which conceals an emission which would otherwise constitute a violation of a standard set forth in conditions 19, 28, and 29 through 36. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size.

**Findings:** In its 2017 ACC, CPAI reported continuous compliance with all NESHAP Subpart A requirements. No instances of concealment were discovered during the May 15, 2018 and September 19, 2018 on-site inspections.

### **In Compliance**

#### **I. NESHAP Subpart E**

Per Condition 19 of No. AQ0267TVP01, Rev. 2, the Permittee shall not cause or allow emissions to the atmosphere from sludge incineration plants (incinerators), EU IDs 35 and 36, to exceed 3.2 kg (7.1 lb) of mercury per 24-hour period. Monitoring shall consist of an annual compliance certification in accordance with condition 89. ***NESHAP Subpart A Prohibited Activities.*** The Permittee shall not operate EU IDs 35 and 36, in violation of the standard, except under an exemption granted by the President under Section 112(c)(2) of the Act.

**Finding:** In its 2017 ACC, CPAI reported continuous compliance with these requirements. With regard to NESHAP Subpart E, CPAI reported that monitoring is not required per the October 16, 1997 waiver from the EPA, and that compliance with the federal rule was assessed based on reasonable inquiry. On August 11, 2015, Sarah Byam of CPAI provided a copy of the October 16, 1997 waiver via email.

### **In Compliance**

#### **J. NESHAP Subpart M**

Per Condition 63 of No. AQ0267TVP01, Rev. 2, the Permittee shall comply with the requirements set forth in 40 CFR 61.145 and 61.150 of Subpart M and the applicable sections set forth in 40 CFR 61, Subpart A and Appendix A.

**Finding:** In its 2017 ACC, CPAI certified continuous compliance with the work practices required under this federal regulation. During the review period, CPAI has not submitted any asbestos demolition notifications.

**In Compliance**

**K. NESHAP Subpart FF**

Per Condition 64 of No. AQ0267TVP01, Rev. 2, the Permittee shall maintain records of each waste stream not controlled for benzene emissions as prescribed by 40 CFR 61.356(b)(I), and shall, in accordance with 40 CFR 61.357(b), submit to the Administrator a report that updates the information listed under 40 CFR 61.357(a)(1) through (3) in the event a change in the process generating the waste has occurred that could cause the total annual benzene quantity from EU ID 57 to increase to 1 Mg/yr or more.

**Finding:** In its 2017 ACC, CPAI reported continuous compliance with the Benzene NESHAP monitoring requirements. The reporting requirement due to increase to 1 Mg/yr was not triggered during the 2017 calendar year.

**In Compliance**

**L. NESHAP Subpart ZZZZ**

At all times, operate and maintain EU IDs 19, 20, 22 through 28, and 64 through 66, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of EU IDs 19, 20, 22 through 28, and 64 - 66.

If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of 40 CFR 63.6640. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of 40 CFR 63.6640, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of 40 CFR 63.6640, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. There is no time limit on the use of emergency stationary RICE in emergency situations.

You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of 40 CFR 63.6640 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by

paragraphs (f)(3) and (4) of 40 CFR 63.6640 counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

**EU IDs 19, 20 and 22-28:**

- a. Change oil and filter every 500 hours of operation or annually, whichever comes first;
- b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and replace as necessary; and
- c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

**EU IDs 19-20, 22-28:**

**Finding:** In response to the Department's April 19, 2017 information request, CPAI provided a list of preventative maintenance for EU IDs 23, 24, 25, 26, 27, and 28. All submitted maintenance records appear to be in compliance with the NESHAP Subpart ZZZZ maintenance requirements. The operating hours for EU ID's 23-28 are listed below.

<b>2017 Operating Hours</b>		
<b>EU ID</b>	<b>Non-Emergency Hours</b>	<b>Emergency Hours</b>
23	0.00	3.55
24	0.00	0.00
25	5.12	5.12
26	2.00	2.00
27	0.00	0.00
28	3.50	1.21

<b>2018 Operating Hours</b>		
<b>EU ID</b>	<b>Non-Emergency Hours</b>	<b>Emergency Hours</b>
23	0.75	0.00
24	0.00	0.00
25	0.00	0.00
26	0.00	0.00
27	0.53	0.00
28	0.00	0.78

**In Compliance**

## VI. State Standards

### A. Visible Emissions

The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from EU IDs 1 through 50, 59 and 60 to reduce visibility through the exhaust effluent by:

- more than 20 percent averaged over any six consecutive minutes

The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from EU IDs 1 through 3, 8 through 13, and 36 to reduce visibility through the exhaust effluent by more than 10 percent averaged over any six consecutive minutes.

#### **Findings:**

January 1 – December 31, 2017: In its 2017 ACC, CPAI reported that EU IDs 1-5, 8-18, 37-40 and 42-50 burned only gas. Gas-fired EU ID 41 is no longer in operation. Liquid fuel-fired EU IDs 19, 20 & 21 are no longer in operation. EU ID 36 did not operate during the certification period. EU IDs 22-28 operated 400 hours or less. CPAI certified continuous compliance with Condition 3.4 of Permit No. AQ0267TVP01 rev. 2 which requires VE monitoring if EU IDs 4-9, 12, 13, 15, or 18 operate on liquid fuel for more than 400 hours in a calendar year. CPAI certified EU IDs 6 and 7 operated on liquid fuel less than 400 hours during the certification period.

July 18, 2018: In its 2017 ACC, CPAI reported that EU ID 31 exceeded the SIP visible emissions standard. CPAI submitted an Excess Emission (EE) on July 24, 2017. *See Section XI. Reports Reviewed, Excess Emissions*, for more information.

#### **Out of Compliance with Condition 3(b)**

### B. Particulate Matter

The Permittee shall not cause or allow particulate matter emitted to exceed:

- 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours from EU IDs 1 through 34 and 37 through 50, 59 and 60
- 0.15 grains per cubic foot of exhaust gas corrected to 12 percent CO<sub>2</sub> and standard conditions, averaged over three hours from EU ID 35
- 0.10 grains per cubic foot of exhaust gas corrected to 12 percent CO<sub>2</sub> and standard conditions, averaged over three hours from EU ID 36.

**Finding:** In its 2017 ACC, CPAI reported continuous compliance with the PM requirements. No PM source testing was required.

#### **In Compliance**

### C. Sulfur Compound Emissions

In accordance with 18 AAC 50.055(c), the Permittee shall not cause or allow sulfur compound emissions, expressed as SO<sub>2</sub>, from EU IDs 1 through 34, 37 through 50, 59, and 60 to exceed 500 ppm averaged over three hours.

**Finding:** For arctic diesel fuel, in each operating report submitted during the evaluation period, CPAI included a list of the fuel sulfur contents measured for Ultra Low Sulfur Diesel, Low End Point Diesel and CPF-2 T-4201 Diesel for each month of the reporting period. No reported values exceeded 0.75% sulfur by weight. Therefore SO<sub>2</sub> emissions are deemed to have been well below the state standard.

For fuel gas, in each operating report submitted during the evaluation period, CPAI reported the H<sub>2</sub>S concentration in each fuel gas for each month of the reporting period. The concentration of H<sub>2</sub>S was in all cases well below 4,000 ppmv (less than 200 ppmv). Per Department's calculation methodology (internal Memo dated October 27, 2000), fuel gas with 4,000 ppmv H<sub>2</sub>S will always comply with the 500 ppmv SO<sub>2</sub> limit.

For fuel gas, CPAI also monitors and reports in accordance with NSPS Subpart GG. Please see *Section V: Federal Standards, NSPS Subpart GG Sulfur Standard* for more information.

### **In Compliance**

## **VII. Emission Unit-Specific Requirements**

- a. In Condition 6 the Permittee shall limit actual emissions from the Turbines (EU IDs 1 through 3 and 8 through 13) as indicated in Table 2 of Permit No. AQ0267TVP01, Rev. 2.
- b. In Condition 7 the Permittee shall limit actual emissions from the Born and certain Drill Site Heaters (EU IDs 16, 37 through 41, 43 through 45, and 48 through 50) as indicated in Table 3 of Permit No. AQ0267TVP01, Rev. 2.
- c. In Condition 8 the Permittee shall limit actual emissions from EU ID 36 as indicated in Table 4 of Permit No. AQ0267TVP01, Rev. 2.
- d. In Condition 9 the Permittee shall limit actual emissions from the GE Frame 6 Turbine (EU ID 14) and the Kvaerner Heater (EU ID 17) as indicated in Table 5 of Permit No. AQ0267TVP01, Rev. 2.

**Finding:** CPAI submitted the monthly and 12-month rolling NO<sub>x</sub>, SO<sub>2</sub>, CO, PM and VOC emissions as applicable for EU IDs 1-3, 8-13, 16, 36, 37-41, 43-45, and 48-50 with each operating report. During the evaluation period, reported emissions did not exceed the applicable BACT limits. With regard to EU IDs 1-3 and 10-13, CPAI monitors in accordance with the NSPS Subpart GG requirements to demonstrate compliance with the short-term BACT NO<sub>x</sub> limit.

CPAI is required to operate EU ID 14 with CZ liner lean-head combustion technology and EU ID 17 with low NO<sub>x</sub> burners as BACT. In its 2017 ACC, CPAI certified continuous compliance with these requirements. In order to demonstrate compliance with the short term BACT SO<sub>2</sub> limit, CPAI reports in accordance with the sulfur compound emission requirements. See *Section VI: State Standards* for more information.

CPAI also conducts a source test on EU ID 14 once every two years to demonstrate compliance with the short-term BACT NO<sub>x</sub> limit. A passing NO<sub>x</sub> source test was

conducted August 8-9, 2018. See *Section XII: Reports Reviewed, Source Tests*, for additional information.

### **In Compliance**

- e. In Condition 10 the Permittee shall maintain and operate fuel gas meters or provide other means of estimating fuel consumption to determine the total volume of fuel gas consumed by the Turbines (Group I: EU IDs 1 through 14) and Heaters (Group II: EU IDs 15 through 18). For other fuel-burning equipment (EU IDs 19 through 50, and 58 through 63) the fuel consumption may be estimated.

In Condition 15.a-b the Permittee shall limit the combined fuel use of all drill rig engines (EU ID 58) at DS1E and DS1J to no greater than: 316,200 gallons per 12 consecutive month and 5,170 gallons per day.

In Condition 16.a-e the Permittee shall limit the combined 12 consecutive month fuel use at DS1E and DS1J to no greater than: 1,476,000 gallons for EU ID 59, 54,400 gallons for EU ID 60, 200,000 gallons for EU ID 61, 177,800 gallons for EU ID 62, and 50,000 gallons for EU ID 63.

In Condition 17.a-b the Permittee shall limit the combined daily fuel use at DS1E and DS1J to no greater than: 2,700 gallons for EU IDs 61 and 62 combined, and 20,100 gallons for EU ID 63.

**Finding:** In each operating report submitted during the evaluation period, CPAI reported the monthly fuel consumption for each emission unit group as required. In addition, CPAI provided the 12 consecutive month total fuel consumption for each of EU IDs 58-63, and the maximum daily total fuel consumption for each of EU IDs 58, 61 and 62 combined, and 63, as required. Reported values did not exceed fuel consumption limits. In the RSP to the 2019 FCE IR Letter, CPAI removed EU IDs 58-63 from the Emission Unit Inventory as they are operating under AQ1015MG202 currently.

### **In Compliance**

- f. Condition 11.1-11.3 states: Monitor and record the monthly operating time for each of EU IDs 1 through 18 and 35 through 50. For EU IDs 4 through 9, 12, 13, 15, and 18 monitor and record the monthly operating times separately for fuel gas and liquid fuel firing and record the calendar year total liquid fuel operating time.

**Finding:** CPAI stated EU IDs 18 and 36 were physically removed from the source. In each operating report submitted during the evaluation period, CPAI reported the monthly operating hours for EU IDs 1-17, 35, and 37-50. For EU IDs 4-9, 12, 13, 15 and 18, CPAI reported the monthly operating time while firing gas, the monthly operating time while firing liquid fuel, and the calendar year total liquid fuel operating time.

### **In Compliance**

- g. In Condition 12.a-d the Permittee shall not use fuel gas with a hydrogen sulfide (H<sub>2</sub>S) concentration at standard conditions that exceeds
- 200 ppmv annual average (for EU IDs 1 through 13, 15, 18, 29 through 41, 43 through 45, and 48 through 50);
  - 200 ppmv 24-hour average (for EU IDs 14 and 17); and
  - 162 ppmv three-hour average (for EU IDs 16 and 30);
  - 275 ppmv at any time (for EU IDs 41, 42, 46, and 47)

**Finding:** CPAI monitors in accordance with the NSPS Subpart GG Sulfur Requirements. In addition, CPAI reported the monthly and 12 consecutive month average fuel gas H<sub>2</sub>S concentration for each month of the reporting period in each operating report submitted during the evaluation period.

CPAI certified continuous compliance with condition 12.2 in the 2017 ACC.

#### **In Compliance**

- h. In Condition 13.a-b the Permittee shall not use liquid fuel with a sulfur concentration that exceeds: 0.5 percent for EU ID 18, and 0.150 percent by weight for EU IDs 58 through 63.

**Finding:** For affected facilities, CPAI monitors, records and reports in accordance with the NSPS Subpart GG Sulfur Requirements. No compliance issues were discovered during the Department's review of records.

CPAI certified continuous compliance during the 2017 ACC reporting period. In the ACC CPAI also reported that EU ID 18 is no longer capable of burning liquid fuel, and that the unit did not operate during 2017.

#### **In Compliance**

- i. Per Condition 14 the Permittee shall document the date on which construction drilling commenced, is completed, and when post construction drilling commences and is completed for DS1E and DS1J.

**Finding:** In its 2017 ACC, CPAI reported that DS1E drilling commenced March 30, 2004. DS1J construction commenced August 14, 2005. End of construction drilling was March 30, 2006. Post-construction drilling began March 30, 2006. The end date for post-construction drilling at both drill sites occurred during 2009. A letter documenting this date was submitted to the Department on March 5, 2012.

#### **In Compliance**

- j. Per Condition 18.a-b the Permittee shall limit the gas burned in EU ID 34 to no more than: 16.2 MMscf per 12 consecutive month period; and 150,000 scf/day.

**Finding:** In its 2017 ACC, CPAI reported that Portable Flare EU ID 34 has never been used. In the January 5, 2019 RSP to the FCE IR Letter, CPAI indicated EU ID 34 is operating under AQ1015MG202.

**In Compliance**

**VIII. Owner Requested Limits**

**A. Operating hours for Emergency Liquid Fuel-Fired Engines**

In Condition 37 the Permittee shall operate the emergency equipment (EU IDs 19 through 28) for no more than 200 hours each per consecutive twelve-month period. This limit does not include emergency operations.

**Finding:** In each operating report submitted during the evaluation period, CPAI reported the monthly and 12 month rolling operating hours in both emergency and non-emergency modes for each of EU IDs 19-28. The reported non-emergency hours of operation did not exceed the 200 hour per consecutive twelve-month period limit.

**In Compliance**

**B. ORL for Emission Unit ID 16 to Avoid Exceeding 43 MMBtu/hr Firing Rate**

In Condition 38 the Permittee shall limit the firing rate of the Born Crude Heater, EU ID 16, to no more than 43 MMBtu/hr heat input rate. The maximum daily average fuel consumption rate of EU ID 16 shall not exceed 0.039 MMscf/hr based on a fuel low heating value (LHV) of 1,100 MMBtu/MMscf.

**Finding:** In each operating report submitted during the evaluation period, CPAI reported the maximum daily average fuel consumption rate for each month of the reporting period. The reported values did not exceed the 0.039 MMscf/hr (based on a fuel low heating value of 1,100 MMBtu/MMscf) limit.

**In Compliance**

**C. Limits to Avoid Classification as PSD Minor**

1. Condition 39 states: Limit NO<sub>x</sub> emissions from EU IDs 1 through 3, combined, to no greater than 824 tons per 12 consecutive month period.

**Finding:** CPAI reported the 12 consecutive month period summation of NO<sub>x</sub> emissions from EU IDs 1-3 for each month of the reporting period with each operating report submitted during the evaluation period. Reported emissions did not exceed 824 tons per 12 consecutive month period.

**In Compliance**

2. In Condition 40 the Permittee shall limit the combined heat input rating of EU IDs 42, 46 and 47 to no more than 184 MMBtu/hr heat input rate.

**Finding:** On January 5, 2019, CPAI reported that the EU inventory included in Section III: Emission Units, is accurate and up-to-date. According to the inventory, EU IDs 42, 46 and 47 have a combined heat input rating of 103.6 MMBtu/hr.

**In Compliance**

3. In Condition 41 the Permittee shall limit combined SO<sub>2</sub> emissions from EU IDs 34, 42, 46, 47, and 59 to no greater than 35 tons per 12 consecutive month period.

**Finding:** CPAI reported the 12 consecutive month SO<sub>2</sub> emissions for EU IDs 34, 42, 46, 47, and 59, combined, for each month of the reporting period with each operating report submitted during the evaluation period. Reported values did not exceed the 35 ton limit.

**In Compliance**

4. Condition 42 states: Limit VOC emissions from EU ID 56 at DS1E and DS1J to a combined total no greater than 34 tons per 12 consecutive month period.

**Finding:** In each operating report submitted during the evaluation period, CPAI reported the monthly VOC emissions estimated at DS1E and DS1J and any inputs and outputs from simulation models and software, for each month of the reporting period.

Reported values did not exceed the 34 ton limit.

**In Compliance**

5. In Condition 43 the Permittee shall not allow the combined solid throughput of EU IDs 35 and 36 to exceed 5,500 tons per rolling 12-month period.

**Finding:** In each operating report submitted during the evaluation period, CPAI reported the monthly and 12-month total summation of solid waste throughput for each of EU IDs 35 and 36. The reported 12-month rolling values did not exceed 5,500 tons. CPAI reported in the FCE IR response that EU ID 36 was physically removed from the source on October 10, 2018.

**In Compliance**

6. In Condition 44 the Permittee shall limit the charging rate of EU ID 36 to 765 pounds of waste per hour.

**Finding:** In each operating report submitted during the evaluation period, CPAI included the monthly maximum hourly charging rate for EU ID 36. During the evaluation period, the reported values did not exceed 765 lb/hr. CPAI reported in the

FCE IR response that EU ID 36 was physically removed from the source on October 10, 2018.

### **In Compliance**

#### **D. ORL for Incinerators for Exemption from the Requirements of 40 CFR 60 Subpart O**

In Condition 45 the Permittee shall limit each of the incinerators, EU IDs 35 and 36, to burn less than 10 percent sewage sludge on a dry basis.

**ORL for Incinerators for exemption from the requirements of 40 CFR 62 Subpart HHH.** In Condition 46 the Permittee shall limit each of the incinerators, EU IDs 35 and 36, to combust a fuel feed stream, ten percent or less of the weight of which is comprised, in aggregate, of hospital waste and medical/infectious waste as measured on a calendar quarter basis.

**ORL for Incinerators for Exemption from the Requirements of 40 CFR 62 Subpart III.** In Condition 47 the Permittee shall burn greater than 30 percent Municipal Solid Waste (MSW) or refused-derived fuel as a percentage of all fuels and wastes burned in each of EU IDs 35 and 36.

**Finding:** In the 2017 ACC, CPAI reported compliance with conditions with the solid waste limitations listed under conditions 45, 46 and 47.

In response to a Department's information request dated December 4, 2018 requesting records to demonstrate compliance with Conditions 45.1, 46.1, and 47.1 for second quarter of 2018, CPAI replied on January 5, 2019 indicating that "There was no sewage sludge or medical/infectious waste burned in second quarter of 2018. EU 36 did not operate during the second calendar quarter of 2018."

### **In Compliance**

During the evaluation period, no compliance issues were discovered with regard to the insignificant source requirements or general requirements listed in Permit No. AQ0267TVP01, Rev. 2.

## **IX. Public Complaints**

According to ADEC's complaint automated tracking system, the Department has not received any complaints during the period of this review.

## **X. Records Research**

On December 4, 2018, ADEC requested the following information from the stationary source in accordance with 18 AAC 50.200 in order to complete this compliance evaluation.

1. Review and, if needed, correct and update the attached Contact Information form.

**Response:** CPAI confirmed that there were no changes to the company information or designated agent.

2. Review and make corrections as necessary to the attached Emissions Unit Inventory form.

**Response:** Formal notification to ADEC for the removal of EU ID 36 will be included in the fourth quarter Facility Operating Report.

3. Provide a description of any upgrades, modifications, or improvements conducted at CPF-1 between April 1, 2017 and December 31, 2018 that had any effect on air emissions.

**Response:** There were no upgrades, modification, or improvements conducted between 1 April 2017 and 4 December 2018 at CPF-1 that had a significant effect on air emissions.

4. With regard to EU IDs 19, 20, 22-28 and 66, provide 2017 and 2018 NESHAP Subpart ZZZZ maintenance records. Please indicate the operating hours for each unit at the time of service and/or inspection.

**Response:** EU ID 19, 20, and 22 did not operate in 2017 and 2018. EU ID 66 was permanently removed from stationary service on 9 August 2015 as indicated in the 29 January 2016 semi-annual Subpart ZZZZ compliance report. Attachment 3 is the list of preventative maintenance items with associated hours of operation for EU ID 23-28.

5. Provide copies of the 2017 and 2018 annual visual inspection records required by Condition 34.2 of Permit No. AQ0267TVP01 Rev. 2.

**Response:** Visible, audible, and olfactory inspection is conducted monthly. Attachment 4 is a summary and records for visual inspection of EU 57 (KUTP) conducted during 2017 and 2018. No leaks were detected during 2017 or 2018.

6. Please provide the records required by Conditions 45.1, 46.1, and 47.1 of Permit No. AQ0267TVP01 Rev 2 for the second calendar quarter of 2018.

**Response:** CPAI provided the records for EU 35 operations as requested. There was no sewage sludge or medical/infectious waste burned in second quarter of 2018. EU 36 did not operate during the second calendar quarter of 2018.

7. With regard to the AIT-1521 H<sub>2</sub>S analyzer, please provide the dates, times and reasons for any instances the analyzer was out of control since April 1, 2017. In addition, please submit the results of all Draeger tube samples and the corresponding analyzer reading for the period April 1, 2017 and December 31, 2018.

**Response:** CPAI provided the H<sub>2</sub>S analyzer log from 1 April 2017 through 4 December 2018. Tape exchanges, window cleanings, preventative maintenance (PM), and extra auto calibrations are not indications that the analyzer was out of control, rather the analyzer was

undergoing maintenance and/or tuning. Any evidence of analyzer malfunction such as calibration accuracy or precision variance exceedance was dealt with promptly.

CPAI also provided the average 24-hour H<sub>2</sub>S concentration measurements from 1 April 2017 to 4 December 2018 as measured by the AIT-1521 H<sub>2</sub>S analyzer and manually sampled Draeger Tube Samples. When multiple Draeger Tube samples were collected on an individual day each is listed. This information is also provided in the NSPS Subpart J report.

8. Please report any failed AIT-1521 H<sub>2</sub>S analyzer calibrations and any evidence that the analyzer was not working properly for the period April 1, 2017 and December 31, 2018.

**Response:** An auto calibration is preformed every morning. If the auto calibration shows a variance greater than 15 ppm, the H<sub>2</sub>S measurements are collected manually until the instrument has been repaired. All anomaly exclusions to the 1521 H<sub>2</sub>S analyzer data are recorded in the H<sub>2</sub>S analyzer log, which is reported in the Continuous Emission Monitoring Report for NSPS Subpart J.

## XI. Reports Reviewed

### E. Operating Reports

Condition 88 of Permit No. AQ0267TVP01 Rev. 2 requires the Permittee to submit an original and two copies of an operating report by April 30 for the period January 1 to March 31, by July 30 for the period April 1 to June 30, by October 30 for the period July 1 to September 30, and by February 15 for the period October 1 to December 31. ADEC has received and reviewed the following operating reports for the period of this review:

Reporting Period	Date Submitted	Compliance Status
April 1 - June 30, 2017	July 28, 2017 *February 11, 2019	In Compliance
July 1 - September 30, 2017	October 27, 2017 *February 11, 2019	In Compliance
October 1 - December 31, 2017	February 13, 2018 *February 11, 2019	In Compliance
January 1 - March 31, 2018	April 30, 2018 *February 11, 2019	In Compliance
April 1 - June 30, 2018	July 20, 2018 *February 11, 2019	In Compliance
July 1 - September 30, 2018	October 29, 2018 *February 11, 2019	In Compliance
October 1 - December 31, 2018	February 11, 2019	In Compliance

**\*CPAI submitted a revised report to reflect a calibration error in EU IDs 14 and 61 that occurred from 4Q16 through 3Q18. However, EU IDs 58, 59, and 62 also exhibited changes in the 2017 fuel consumption summary.**

#### F. Annual Compliance Certifications

Condition 89 of Permit No. AQ0267TVP01 Rev. 2 requires submittal of an annual compliance certification to ADEC and EPA by March 31. ADEC has received and reviewed the following annual compliance certification reports for the period of this review:

Reporting Period	Date Submitted	Compliance Status
January 1 – December 31, 2017	March 29, 2018	In Compliance

#### G. Excess Emissions

Condition 86 of Permit No. AQ0267TVP01 Rev. 2 requires the Permittee to submit all emissions or operations that exceed or deviation from the requirements of the permit.

1. **Date and Time of Event:** March 1, 2018; 1:11 pm to 3:15 pm

**Report Submitted:** March 5, 2018

**EU ID(s):** 30

**Applicable Permit Condition(s):** 3(b) and 90

**Unavoidable Assertion:** Yes

**Affirmative Defense:** Yes

**Event Description:** On 1 March 2018 at 12:58 pm, a planned flaring event for the testing of the electrical system of the NGL plant resulted in emissions with greater than 20% opacity. Due to complications with the re-start of the process equipment, the duration of the event was extended. Additionally, valve routing due to complications of the re-start resulted in routing additional NGL's to the flare system. During the flaring, CPAI determined that EU 30 exceeded the applicable opacity limits between 13:11 and 15:15 on 1 March 2018.

**Corrective Actions:** CPAI stated that a one-time test and repair of electrical equipment was performed and that re-occurrence is unlikely while the facility is operational.

**Notes:** The Department issued a compliance letter dated May 9, 2018 to address the excess emission. The Department denied the assertion that the event was unavoidable as the department expects that electrical equipment labeling be correct if necessary to maintain compliance with applicable emission limits. CPAI responded and maintained that the labeling was not the main cause and the event was unavoidable.

#### H. Permit Deviations

Condition 86 of Permit No. AQ0267TVP01 Rev. 2 requires the Permittee to submit all emissions or operations that exceed or deviation from the requirements of the permit.

**Date and Time Discovered:** January 25, 2019 6:30 AM

**Report Submitted:** February 12, 2019

**Event Period:** 7/27/2018 through January 22, 2019

**EU ID(s):** 16, 30, and 57

**Applicable Permit Condition(s):** 24, 25, 33.3, 34.11, 87.1, and 90

**Reason for Notification:** Deviation from Permit Condition

**Deviation Type:** Recordkeeping/Reporting/Compliance Certification

**Description:** The Permittee did not submit the report for NSPS Subpart J to the Department for EU IDs 16 and 30. The Permittee did not submit the report for NSPS Subpart GGG to the Department for EU ID 57.

**Corrective Actions Taken:** Reports were submitted to the Department upon discovery of the deviation.

**Notes:** The reports themselves are in compliance. Will address in FCE transmittal letter.

## **I. Source Tests**

### **1. Source Test Plans**

Condition 79 of Permit No. AQ0267TVP01 Rev. 2 requires the Permittee to submit a completed source test plan within 60 days after receiving a request under Condition 72 and at least 30 days before the scheduled date of any test unless the Department agrees in writing to some other time period.

**Date of Schedules Source Test:** August 9, 2018

**Date Submitted:** June 29, 2018

**EU ID(s):** 14 (Tag No. G-3203)

**Applicable Permit Condition(s):** 9.2(a)

**Description:** Re-occurring NO<sub>x</sub>

**Notes:** Source test plan was submitted on time and contained all required information.

#### **In Compliance**

### **2. Source Test 10-Day Notifications**

Condition 80 of Permit No. AQ0267TVP01 Rev. 2 requires the Permittee to submit a notification at least 10 days before the source test will begin.

**Date of Scheduled Source Test:** August 8, 2018

**Date Submitted:** July 20, 2018

**EU ID(s):** 14 (Tag No. G-3203)

**Applicable Permit Condition(s):** 9.2(a)

**Description:** Re-occurring NO<sub>x</sub>

**Notes:** Notification submitted at least 10 days before scheduled start.

#### **In Compliance**

### **3. Source Test Reports**

Condition 81 of Permit No. AQ0267TVP01 Rev. 2 requires the Permittee to submit two copies of the source test results within 60 days after completion of the source test.

**Date of Source Test:** August 8-9, 2018

**Date Submitted:** September 7, 2018

**EU ID(s):** 14 (Tag No. G-3203)

**Applicable Permit Condition(s):** 9.2(a)

**Description:** Re-occurring NO<sub>x</sub>

**Notes:** Source test report submitted 29 days after source test was conducted, well within the 60 day limit. The report included all required information. The Department sent an acceptance letter on October 24, 2018 encouraging CPAI to follow the calibration technician's recommendation to replace the transmitter, as it is an important device in reporting fuel input used in EPA Method 19 NO<sub>x</sub> calculations.

### **In Compliance**

#### **J. Federal Reports**

1. NSPS Subpart OOOOa Annual Report. September 18, 2015 through March 31, 2017. Submitted June 27, 2017. **In Compliance**
2. NSPS Subpart GGG Semi-Annual Report. January 1 – June 30, 2017. Submitted July 7, 2017. **In Compliance**
3. NSPS Subpart J CEMS Semi-Annual Report. January 1 – June 30, 2017. Submitted July 7, 2017. **In Compliance**
4. NSPS Subpart GGG Semi-Annual Report. July 1 – December 31, 2017. Submitted January 15, 2018. **In Compliance**
5. NSPS Subpart GG Annual Report. January 1 – December 31, 2017. Submitted January 15, 2018. **In Compliance**
6. NSPS Subpart J CEMS Semi-Annual Report. July 1 – December 31, 2017. Submitted January 15, 2018. **In Compliance**
7. NSPS Subpart OOOOa Annual Report. April 1, 2017 – March 31, 2018. Submitted July 20, 2018. **In Compliance**
8. NSPS Subpart GGG Semi-Annual Report. January 1 – June 30, 2018. Submitted January 25, 2019. **Out of Compliance**
9. NSPS Subpart J CEMS Semi-Annual Report July 1 – December 31, 2018. Submitted January 16, 2019. **In Compliance**
10. NSPS Subpart GGG Semi-Annual Report. July 1 – December 31, 2018. Submitted January 16, 2019.
11. NSPS Subpart J CEMS Semi-Annual Report. January 1 – June 30, 2018. Submitted January 22, 2019. **Out of Compliance**
12. NSPS Subpart GG Annual Report. January 1 – December 31, 2018. Submitted January 25, 2019. **In Compliance**

#### **K. Other Reports**

##### **1. Off Permit Modification**

**Date Submitted:** September 27, 2017

**Unit(s):** 2013 Kubota diesel-fired engine

**Description:** The off permit change notification is for the use of a diesel mobile light tower at a small gasoline dispensing facility (GDF)1 located at the Kuparuk Operations Center (KOC), part of the CPF-1 pad. A 2013 Kubota diesel-fired engine with a standby rating of 15.4 horsepower drives the mobile light tower (HP). The equipment provides seasonal lighting for the GDF and power to the pump on a temporary basis, starting on December 10, 2016. Kuparuk River Unit grid power was expected to be routed to the GDF, but has been delayed due to unforeseen increase in tanks, infrastructure, and

dispensing capacity to scope of project and will not occur at least until the 1st quarter of 2018. As a result, the diesel engine associated with the light plant will be utilized at the same location at CPF-1 for more than 12 consecutive months. Therefore, the engine is a stationary engine rather than a non-road engine (NRE) under 40 CFR 89.2.

**Findings:**

Based on our review of the applicable regulations, the Department agrees with CPAI's analysis that this change does not trigger a Title I permitting requirement. CPAI submitted an additional Off Permit Modification on July 4, 2018 notifying the Department that the equipment had been removed on July 1, 2018 and returned to a non-road engine under 40 CFR 89.2.

**In Compliance**

**2. Change of Responsible Official**

**Date Submitted:** September 24, 2018

**Description:** CPAI added Erik Keskula and Denise Titus as responsible officials for CPF-1.

**In Compliance**

**XII. On-Site Visit**

Inspector: Joseph Morris - EPS

May 15, 2018

Weather: Approximately 39 Degrees Fahrenheit, Overcast, Wind: 9 mph (NE)

I held an opening conference for the CPF-1 onsite inspection at approximately 11:00AM to discuss the scope of the inspection, with the following CPAI representatives: Dennis Milton-CPF-1 Operations Superintendent, Randy Roberts, Jay McKee-CPF1 Maintenance Supervisor, and Sarah Byam, Field Environmental Coordinator.

The following emission units were observed:

<b>EU ID</b>	<b>Source Name</b>	<b>Notes (if applicable)</b>
1-2-3	GE Frame 3 (MS3002) Gas Lift Compressors	
4-9	EGT (Ruston) TB5000 Electric Generator	
10-13	EGT (Ruston) TB5400 Water Injection Pumps	
14	GE Frame 6 Electric Generator	
15	Broach Emergency Heater	
16	Born Crude heater	

17	Fuel Gas Heater	Heats gas for EU14
18	ICE Air Heater	Unit has been removed
19-21	Emergency Generators	Units have been disconnect or removed
30-34	Flares	No visible emissions were observed
35	Incinerator	No Visible emissions were observed
36	Incinerator	Not running
38	Latoka Drill Site heater	
48-60	Fixed roof storage tanks >10,000 gallon	

At no time during my tour was dust or visible emissions from the facility or process visible. Along with showing the EU and process of CPF-1, Ms. Byam also demonstrated to me CPAI's IP.21 monitoring system and how it tracks fuel, flares, flows hours and scheduled maintenance. Ms. Byam explained IP.21 is the data base in which she is able to pull required reporting data for Operating Reports or Information Requests. The inspection concluded at approximately 6:00pm.

Inspector: Breanna McGuire – EPS

September 19, 2018

Weather: Approximately 35° F, Sunny, Wind: 5 mph (SW)

I met with Catie Coursen, Brad Broker, and Sarah Byam at the CPF-1 office at approximately 10:00 AM before beginning our inspection of CPF-1. During the CPF-1 on-site air quality inspection, no strange odors, leaks (other than some lube oil), visible emissions, or indications of poor maintenance were observed.

The following emission units were observed:

EU ID	Source Name	Notes (if applicable)
1-3	GE Frame 3 (MS3002) Gas Lift Compressors	Units were operating, buckets used to collect oil samples for analysis were seen.
4-9	EGT (Ruston) TB5000 Electric Generator	Units 4 and 5 were operating, no visible emissions observed from stacks.
10-13	EGT (Ruston) TB5400 Water Injection Pumps	Units were operating.
14	GE Frame 6 Electric Generator	Unit was operating.
15	Broach Emergency Heater	Unit is for emergencies only, not operating.
16	Born Crude heater	
17	Fuel Gas Heater	Heats gas for EU 14, was operating.
30-34	Flares	Flare unit 30 was operating, no visible emissions observed.
35	Incinerator	Unit was operating, no visible emissions were observed
36	Incinerator	Unit was being dismantled during onsite visit.
57	Topping Plant	Unit was operating.

69	Emergency Generator CI RICE	Unit was not operating.
70	Emergency Generator CI RICE	Unit was not operating.

### XIII. Compliance Issues

According to Permit No. AQ0267TVP01 Rev. 2 and Alaska Air Quality Control Regulations, the stationary source appeared out of compliance with the following during the period of this review:

<b>Condition 3(b)</b>	<p><b>The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from EU IDs 1 through 50, 59 and 60 listed in Table 1 to reduce visibility through the exhaust effluent by any of the following:</b></p> <ul style="list-style-type: none"> <li><b>a. more than 20 percent for a total of more than three minutes in anyone hour;</b></li> <li><b>b. more than 20 percent averaged over any six consecutive minutes.</b></li> </ul>
<b>Finding</b>	<p>On March 5, 2018 CPAI submitted an Excess Emission report indicating that on 1 March 2018 at 12:58 pm, a planned flaring event for the testing of the electrical system of the NGL plant resulted in emissions with greater than 20% opacity. Due to complications with the re-start of the process equipment, the duration of the event was extended. Additionally, valve routing due to complications of the re-start resulted in routing additional NGL's to the flare system. During the flaring, CPAI determined that EU 30 exceeded the applicable opacity limits between 13:11 and 15:15 on 1 March 2018.</p> <p>The Department issued a compliance letter dated May 9, 2018 to address the excess emission. The Department disagreed that the event was unavoidable as the department expects that electrical equipment labeling be correct if necessary to maintain compliance with applicable emission limits. CPAI responded and maintained that the labeling was not the main cause and the event was unavoidable.</p>
<b>Condition 87</b>	<p><b>87. NSPS and NESHAP Reports. The Permittee shall:</b></p> <p><b>87.1 attach to the operating report required by condition 88, copies of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 as required by conditions 24, 25, 26, 32.6, 32.7, 32.9, 34.11, 45.2, 46.3, 47.2, 63, and 64, unless copies have already been provided to the Department at the time submitted to EPA, and</b></p>

<b>Finding</b>	CPAI failed to submit the 1H18 NSPS Subpart A Excess Emissions and Monitoring System Performance Report and Summary Report Form with the 1H18 FOR. On January 22, 2019 in response to a Department inquiry CPAI submitted the missing NSPS reports.  CPAI failed to submit the 1H18 NSPS Subpart GGG Report with the 1H18 FOR. On January 25, 2019 CPAI submitted the report to the Department.
<b>Condition 90</b>	<b>The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those term or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for 90.1 through 90.3.</b>
<b>Finding</b>	See above Condition violations.

#### XIV. Conclusion

As a result of ADEC's air quality full compliance evaluation conducted with or without an on-site visit, the Stationary source was found to be operating out of compliance with requirements of Permit No. AQ0267TVP01 Rev. 2, AQ0267MSS07 and Air Quality Control Regulations.